

## SCIENCE AND INVENTION.

## Work of the World's Busy Brains in Discovering, Inventing and Creating.

## THE SELDEN PATENT.

A big fight is brewing in the automobile trade. In 1895 George B. Selden received a broad patent for the invention of "a road locomotive or horseless carriage propelled by a liquid hydrocarbon gas-engine of the compression type, having one or more power cylinders, using an intermediate clutch or disconnecting device for the separation of the engine from the propelling wheel, using a power shaft running at a greater speed than the propelling wheel and using a suitable receptacle for liquid fuel."

As is well known, the Patent Office issues a patent upon prima facie evidence of a new and useful invention, and allows the questions to be connected with it to be fought out in the courts. That is, a patent is not conclusive evidence, and it only becomes a thorough monopoly when the courts have decided that it covers the case and excludes all others. The Selden patent has never been looked upon by patent lawyers as a strong and conclusive award. They have regarded it as full of loopholes. As soon as the manufacture of automobiles began to assume any importance the leading manufacturers raised up the Selden patent, and without testing its validity agreed among themselves to accept it and maintain it against others. Mr. Selden assigned his patent to the Electric Vehicle Company in consideration of royalties. The manufacturers formed an association for mutual protection in litigation and other matters, and in July, 1900, began an amicable suit to confirm the Selden patent. The suit was against the Winton Motor Carriage Company, and the Winton Co. made no defense. A decree was entered against the company pro confesso, and its example was followed by other automobile manufacturers until there were 30 in the association. They entered into an agreement that every one should take out a license from the Vehicle Co., and pay a royalty of 1 1/2 per cent upon the retail price. Three-fifths of the royalties were to be retained by the Vehicle Co. and two-fifths to be paid back to the Association for the payment of expenses. All entering into this syndicate bound themselves not to issue any licenses except with the consent of the Association, which was to manage all litigation. Each member of the Association paid an initiation fee of \$2,500, and the foundations were laid for the biggest monopoly in the country. The automobile manufacturers outside of the Association were generally scared into paying tribute to it and taking out licenses; but one of the largest of these, the Ford Motor Co., of Detroit, has fought the Association from the start. Mr. Ford took the aggressive. He bantered the Association to apply for an injunction against him, and finally offered, if they would sue him, to let them choose any jurisdiction in the country. The Association sued the Ford Motor Co., sued John Wanamaker, who was the Ford agent in New York, and they sued O. J. Gude as an owner and user, but the cases have never been brought to trial, and Ford accuses the Association with designedly obstructing the proceedings. Ford gives a bond with every machine he sells, promising to defend the purchaser in all litigation and to pay all possible damage incurred. Mr. Ford says that Selden did not discover the engine, and that every body has a perfect right to use any old gasoline engine and carry it on a vehicle in any old way with any old and well-known means of applying the power and disconnecting it. In short, Mr. Selden never advanced the automobile industry in any way, and its condition would be the same if he had never been born. The Ford Co. has paid 100 per cent dividends this year and another is due. It is very prosperous, and expects to remain so, in spite of the National Association of Automobile Manufacturers. As the Selden patent has but seven years more to run, it looks as if Ford will win out in the end by the failure of the cases to come to trial, if by no other means. What has brought the matter more prominently before the public is the attempt of the National Association of Automobile Manufacturers to embarrass the importation of foreign machines and to levy a tax of 5 per cent upon every machine imported. They have detectives who are following up all foreign machines, and have already discovered at least 800 in the country which have not paid tribute. The purchasers of foreign machines complain bitterly against this "legal blackmail," but most of them prefer to pay rather than to become involved in costly litigation. The National Association of Automobile Manufacturers secured the Madison Square Garden for automobile shows, leasing it for two years and prohibiting the exhibition of any but licensed machines. Mr. John E. Hedges, who is the counsel for the Ford Co., has organized an association of unlicensed manufacturers, and they are giving a show in New York, to which all machines will be admitted, at the new 69th Regiment Armory.

## MAKING USE OF MURDERERS.

The London Lancet has started an interesting discussion as to the advisability of using convicted murderers, whose lives have been forfeited, for the advancement of science. It is proposed to turn these men over to the physicians to experiment upon. The qualification is made that they consent to this as an alternative to being hanged. It seems to us that it would be better to have this made compulsory, and a man who was sentenced to be hanged might have it qualified by being kept in prison for the use of surgeons. This would lend an additional terror to the sentence, because most ignorant men, and of this class murderers are generally composed, have a much greater fear of the surgeon's knife than they have for the hangman's noose. Among the suggestions are those of testing the tuberculosis and cancer germs. Of course, there will be a howl from the "professional humanitarians," but these men are somewhat pretty tired of these mushy sentimentalists, who would, if their plans could be carried out, have every man who commits a crime be made a public pet and attended at the penitentiary by a valet, with all the comforts of refinement and elegance. A brute who commits a willful murder and is so ad-

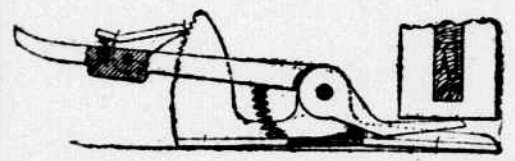
## ACCESS TO PATENT APPLICATIONS.

The Patent Office publishes the following as Rule 18: "Rule 18.—Before any attorney, original or associate, will be allowed to inspect papers or take action of any kind, his power of attorney must be filed. But general powers given by a principal to an associate cannot be considered. In each application the written authorization must be filed. A power of attorney purporting to have been given to a firm or copartnership will not be recognized, either in favor of the firm or of any of its members, unless all its members shall be named in such power of attorney."

## WORK OF THE PATENT OFFICE.

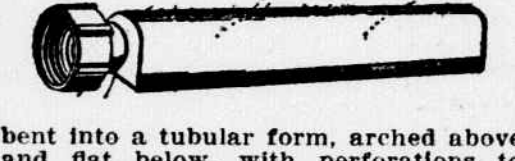
For the week ended Oct. 3, 1905, the Patent Office issued 579 patents, two designs, 105 trade-marks, one label and one reissue; making a total of 688. Of these 524 patents and 106 trade-marks, etc., went to citizens of the United States, and 57 patents to citizens of foreign countries.

**Door Holder.**  
Miles E. Bever, Kansas City, Mo., has patented a door-holder which has a



pawl working with ratchet teeth and a spring to thrust under the bottom of a door and hold it firmly from being opened.

**Lawn Sprinkler.**  
Barney Brown, Longbeach, Cal., has received a patent for a sprinkler-head for lawns consisting of a sheet of metal



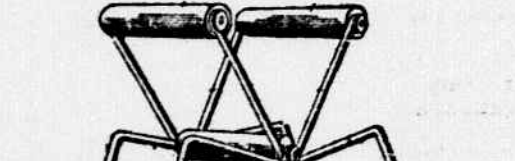
bent into a tubular form, arched above and flat below, with perforations to convert it into a sprinkler and a means for attaching the hose.

**Folding Egg-Case.**  
Luther P. Brown, North Adams, Mass., has patented a foldable box for



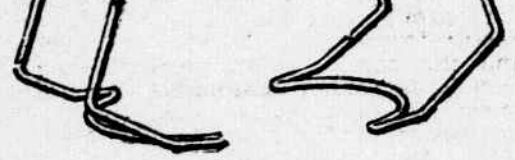
carrying eggs and admitting of being stored in a compact shape for return.

**Cuspidor Carrier.**  
William B. Tscharnar and Charles C. Looney, La Crosse, Wis., have patented



a cuspidor carrier consisting of pivoted sections which permit the adjustment to any size of collar.

**Expense Recorder.**  
Adolph G. Carlson, Chicago, Ill., has patented a device for keeping track of one's expenditures, which consists of a watch-like device in which there are a



printing wheel with type characters, a record sheet and a connection for moving the index finger and printing upon the sheet the amounts expended from time to time.

**Mail-Bag Catcher.**  
Hazellus S. Bostian, Chingrove, N. C., has received a patent for a new form of a mail-bag catcher which has



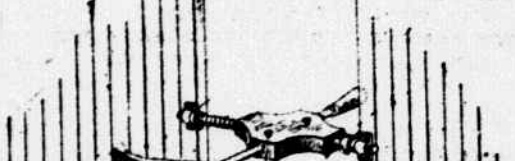
structured from a sheet of metal, with a holding-clip cut from the body of the plate and tapering to its outer end.

**Anti-Slipping Device.**  
William J. Smith, Canastota, N. Y., has patented an anti-slipping device



for trees, which has clips engaging the rim and snap-hooks to catch and hold a chain having a zig-zag course over the tread of the tire.

**Vehicle Heater.**  
Theodore B. Woodward, Norway, Pa., has patented a device by which the bottom of a buggy or other vehicle may



be heated by means of an oil stove, with pipes to convey the gas and odors from the stove to the vehicle.

**Fruit Picker's Bag.**  
Elam Harter, Riverside, Cal., has patented a foldable sack having a reinforced mouth, and a freely flexible open bottom, for the use of fruit pickers.

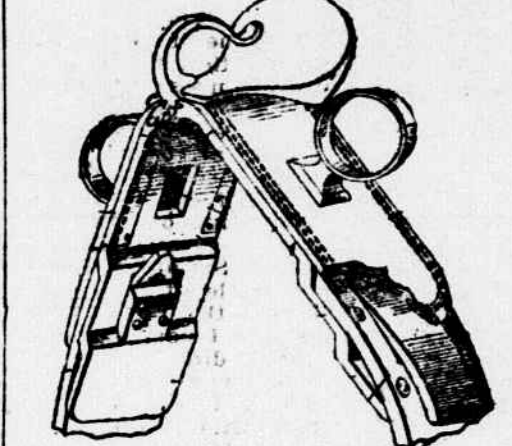


which has a carrier with recesses for the fruit which carry the same over to a coring knife to remove the cores of the fruit.

There were three non-refillable bottle patents issued for the week ended Oct. 3.

## HARNESS.

Albion D. Carpenter, Woodbridge, N. J., has patented a combination of a saddle, a check-hook and a saddle, and engaging the foot and provided with



vertical slots and means for connecting the lugs with the plow foot, and a sweep connecting by means of the vertical slots with the saddle.

**Heating Attachment for Lamps.**  
Cyrus Plummer, Flemingsburg, Ky., has patented a heating device for small



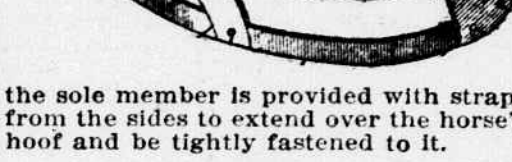
quantities of liquid over a lamp. It is a conical vessel with legs of flexible metal to engage the top of a lamp chimney.

**Buttonhole Sewing-Machine.**  
George S. Hill, Bradford, Mass., has received a patent for a machine to sew



button-holes, which has the usual stitch-forming mechanism with a device for producing the motion of sewing around the buttonhole, completing it.

**Cotton-Picking Machine.**  
Henderson P. Childress, Brooklyn, N. Y., has received four patents for a very



elaborate cotton-picking machine, the description of which occupies nearly 14 columns in the Official Gazette.

**Machine for Cleaning Old Brick.**  
Joseph M. Moroney and Albert E. McCarty, St. Louis, Mo., have received a patent for a machine for cleaning old

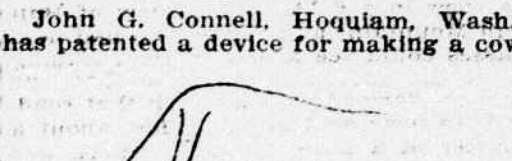


brick, which consists of a platform having a revolving disk, the face of which strikes the brick and cleans them of the old mortar.

**Egg Preserving Compound.**  
Esta A. Makepeace, Eldorado, Kan., has patented a compound for preserving eggs. It is as follows:

"A compound for preserving eggs, made up of one part each of magnesia, borax and tartaric acid, two parts of chlorid of sodium, four parts of oxid of calcium, and 24 parts of water."

**Folding Stool.**  
George V. McConnell, Reed City, Mich., has patented a folding stool of simple design which ends in castors for the pivoted legs.



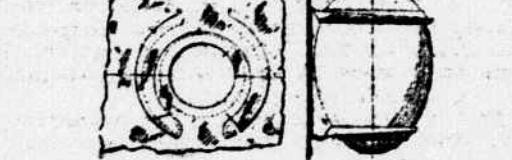
**New Uses for Asbestos.**  
The finest asbestos known comes from the Grand Canyon of the Colorado. It has long fibers that can be spun and woven into various fireproof fabrics. The latest adaptation of asbestos is to the making of shingles for the protection of buildings. It is stated that these are not only fireproof, but are lighter than slate, and by their non-conducting character they keep the house cooler in summer and warmer in winter than other shingles. Some day we may have the entire building, frame and all, of asbestos, and thus have a really fireproof house.

**Solder for Aluminum.**  
What is reported to be the most successful solder for aluminum yet secured, consists of tin 64 parts by weight, zinc 30 parts, lead 1 part and aluminum 1 part, to which add a small portion of resin. To solder, clean the surfaces to be joined with the solder. No chemical is used, but the surfaces of the parts to be soldered should be gently heated to assist in making a good adhesion.

**Scientific Notes.**  
The largest public bath in Europe is located at Vienna. It is 587 feet long, 156 feet wide and accommodates 1,500 people. It is patronized by thousands of the poor.

Lightning killed one man and injured two others in a mine 1,008 feet in the ground in Michigan recently. The bolt struck a cable and ran down into the mine, prematurely setting off two charges of dynamite.

In some parts of Europe and Asia there is a peculiar custom of salting new-born babies. When a baby is born among the Armenians of Russia the nurse takes the infant and covers the entire skin with very fine salt. This salt is left on the baby for three hours



or more, and then the child is washed with warm water. In Asia Minor there is a tribe of people living in the mountains who do even worse than this. They salt their new-born babies and leave the salt on them for 24 hours. The modern Greeks sprinkle salt on their babies. This practice of salting babies is an ancient custom, and has arisen in superstition, of course. The mothers think that salting insures their children's health and strength, and that it will keep evil spirits away from them. It is a cruel and unnecessary custom, and salt is still used on the child at birth.

To copper the surface of brass articles, all that is required is to wind a piece of wire round them, and dip them in a solution of cuprous chloride. The zinc is dissolved from the surface of the brass, but the copper remains undissolved, and the article will appear as if coated on the surface with a layer of pure copper.

An interesting hygrometer is made by dipping a strip of calico in a solution of one part of cobalt chloride, 75 of nickel oxide and 200 of gelatine in 200 of water. The strip is green in fine weather, fading as moisture appears.

The Carnegie Steel Works, consisting of three plants, the Duquesne, the Edgar Thompson and the Homestead Steel Works, are all located in Allegheny County, Pa., and are the largest in the world. The "Thompson" produces 700,000 tons of steel rails in a year, the Duquesne produces 1,000,000 tons of ingots, and the Homestead works 500,000 tons of Bessemer steel ingots, besides 1,500,000 tons of open-hearth steel ingots.

Professional men in the Argentine Republic must hold diplomas from the national schools and universities. By law enacted in June all civil and mechanical engineers, architects, chemists and dentists are all required to pass an examination as strenuous as those passed by doctors or dentists.

As the result of experiments extending over several months, it has been decided to abandon hard wood for street paving purposes in London. Hard wood not only severely damages the concrete foundation, but wears unevenly. The edges of each block wear away before the center, and the result is a corrugated surface, which makes a very rough surface for driving over. Soft wood, on the other hand, wears evenly; the external pressure tends to spread the wood at the edges, thereby filling up the interstices between the blocks, and giving a perfectly even, homogeneous surface. The life of a soft-wood pavement is about 10 years, and it has the additional advantage of wearing right down.

The commercial power of the world is largely due to the invention of steel rails. When the roads were made of iron rails the whole system had to be renewed every 18 months.

**GOOD BOYS COST \$160 PER YEAR.**

Estimate Given by an Ohio Institution for the Prevention of Crime.

(Everybody's.)

"It costs the State of Ohio about \$160 a year for each boy. A useful, capable man will save the State \$250,000,000. These 11,000 boys cost the State of Ohio then, say, \$2,000,000,000. Say 7,000 of them were rescued. That is \$14,000,000,000 recovered by the State. The investment of \$2,000,000,000 has been figured that every criminal does about \$2,000 damage a year, leaving entirely out of the estimate what it costs to maintain the plant for the prevention, and punishment of crime. Each man will be a criminal not less than 20 years. That's \$40,000,000,000 multiplied by 7,000 boys, or \$280,000,000,000 damages saved, not counting the cost of the anti-criminal plant. Has it paid to run this Boys' Industrial School at Lancaster?"

"And even if it hadn't paid financially, isn't it worth while?"

**The Yiddish Dialect.**

Yiddish is an archaic and corrupt form of German extensively spoken by Jews in many countries. It is a mixture of Hebrew and German. An instance of its popularity is given by a writer. In Jerusalem he met "a worthy man who denounced him for being unable to converse with him in Yiddish. 'You are no Jew,' he protested, 'for you do not know the Jewish language.' I answered that Hebrew was the Jewish language, and that I was willing to try to speak to him in it. His rejoinder was: 'I have no patience with this new-fangled idea of speaking Hebrew in Jerusalem.'"

**An Englishman's Puzzle.**

Congressman A. P. Gardner, of Massachusetts, tells of a short party he attended. One of the guests, an Englishman, showed such unfamiliarity with his gun as to make the rest of the party somewhat nervous. Nothing happened, however, until Mr. Gardner felt something poking him in the ribs. He turned and found the novice prodding him with the muzzle and fumbling with the hammer of his gun. "Before we get on the birds," said the Englishman, "you might show me how to get these hammers down."

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## WHEN TO FELL TREES.

Marked Superiority of Timber Cut in December.

Le Bois describes the results of experiments conducted to ascertain the most advantageous period for felling trees for timber. Four beautiful pines of the same age were selected, growing on the same soil and equally healthy; they were cut down in the same way, one at the end of December, another at the end of January, a third at the end of February, and a fourth at the end of March. They were squared in the same manner, made into similar beams, and dried under identical conditions. When examined for their resistance to flexion, it was found that the pine felled in December supported,

without change of form, a load twice as heavy as the one felled in March. There was the same difference in the durability. Piles made of branches cut in December were still healthy at the end of 15 years, while others, made of similar branches cut in March, broke without effort at the end of three or four years. The wood felled in December

was also less porous, allowing less moisture to penetrate. Of four oaks felled successively in December, January, February, and March, four identical beams were taken for forming the bottom of vessels of the same dimensions. The four vessels were filled with water to the same height; but while at the

end of two hours water filtered through the oak disk of the tree cut in March, the disk of the December oak did not allow a drop of water to pass. The same experiment was conducted with oak casks. At the end of a year the one had lost only 40 cubic centimeters, while the other had allowed 7 1/2 liters to pass. It is therefore desirable to fell wood in December and to select for purchase winter wood in preference to spring wood. Winter wood is readily recognized from its containing particles of starch, which have the property of becoming blue on contact with tincture of iodine. A little of the tincture is spread on a sample, and if the wood retains its color, or if it merely becomes darker with the application of the iodine, it is Spring or Summer wood; if, on the contrary, it becomes blue, it is Winter wood.

**Indigestion**

Stomach trouble is not really a sickness, but a symptom. It is a symptom that a certain set of nerves is ailing. Not the voluntary nerves that enable you to walk and talk and act—but the AUTOMATIC STOMACH NERVES over which your mind has no control.

I have not room here to explain how these tender, busy nerves control and operate the stomach, how they break them down and cause indigestion. How misuse wears them out and causes dyspepsia. How neglect may bring on kidney, heart, and other troubles through sympathy. I have not room to explain how these nerves may be reached and strengthened and vitalized and made stronger by a remedy I spent years in perfecting—now known by physicians and Druggists everywhere as Dr. Shoop's Restorative.

I have not room to explain how this remedy, by removing the cause, usually puts a certain end to indigestion, belching, heartburn, insomnia, nervousness, dyspepsia. All of these things are fully explained in the book I will send you free when you write. Do not fail to send for the book. It tells how the solar plexus governs digestion and a hundred other things every one ought to know for all of us, at some time or other, have indigestion. With the book I will send free my "Health Token"—an intended passport to good health.

For the free book and the "Health Token" you must address Dr. Shoop, Box 1531, Racine, Wis. State which book you want.

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Book 2 on the Heart  
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